UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

July 17, 2006

George A. Williams, Site Vice President
Grand Gulf Nuclear Station
Entergy Operations, Inc.
P.O. Box 756
Port Gibson, MS 39150

SUBJECT: GRAND GULF NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000416/2006003

Dear Mr. Williams:

On June 30, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Grand Gulf Nuclear Station facility. The enclosed integrated report documents the inspection findings, which were discussed on July 10, 2006, with you and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents one NRC identified finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements; however, because of its very low safety significance and because it was entered into your corrective action program, the NRC is treating this finding as a noncited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy. If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011-4005; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at the Grand Gulf Nuclear Station facility.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Kriss M. Kennedy, Chief
Project Branch C
Division of Reactor Projects

Docket: 50-416
License: NPF-29

Enclosure:
Inspection Report 05000416/2006003
w/Attachment: Supplemental Information

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RIV:RI:DRP/C	SRI:DRP/C	C:SPE:DRP/C	C:DRS/EB1	C:DRS/PSB
AJBarrett	GBMiller	WCWalker	JAClark	MPShannon
KMKennedy for	***E - KMKennedy***	***KMKennedy for***	***/RA/***	***/RA/***
7/17/06	7/14/06	7/17/06	7/ /06	7/ /06

C:DRS/OB	C:DRS/EB2	C:DRP/C		
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7/14/06	7/14/06	7/17/06		

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	50-416
Licenses:	NPF-29
Report No.:	05000416/2006003
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Waterloo Road Port Gibson, Mississippi 39150
Dates:	April 1 through June 30, 2006
Inspectors:	G. Miller, Senior Resident Inspector A. Barrett, Resident Inspector G. Werner, Senior Project Engineer R. Lantz, Senior Emergency Preparedness Inspector P. Elkmann, Emergency Preparedness Inspector
Approved By:	Kriss M. Kennedy, Chief Project Branch C Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000416/2006003; 4/1/06 - 6/30/06; Grand Gulf Nuclear Station; Integrated Resident and Regional Report; Refueling and Outage Activities.

This report covered a 3-month period of inspection by resident inspectors and Regional office inspectors. The inspection identified one Green finding which was also a noncited violation. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management's review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Barrier Integrity

- Green. The inspectors identified a Green noncited violation of Technical Specification 5.4.1(a) for the failure to follow the procedure for reactor recirculation pump speed changes. Operators attempted to shift Recirculation Pump A to fast speed without verifying that interlocks were satisfied (annunciators not lit) as required by procedure. As a result, Recirculation Pump A failed to shift to fast speed, creating a flow mismatch between the recirculation loops. The licensee entered this into their corrective action program as Condition Report CR-GGN-2006-2329.

  This finding is more than minor since the failure to follow procedures regarding reactor manipulation, if left uncorrected, could lead to a more significant safety concern. The inspectors determined this finding affected the Barrier Integrity cornerstone since matched recirculation loop flows is an assumption used in the accident analysis for a loss-of-coolant accident resulting from a loop break. A flow mismatch could result in core response more severe than assumed in the accident analysis. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is of very low safety significance since it only affects the fuel barrier. This finding has crosscutting aspects associated with human performance since operators failed to follow procedures and verify that all annunciators associated with the recirculation loop pump temperatures were extinguished prior to shifting Recirculation Pump A to fast speed. Operators made incorrect assumptions regarding the meaning of the lit annunciator and the impact that it would have on their ability to shift the pump to fast speed.

B. Licensee-Identified Violations

A violation of very low safety significance which was identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and the corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Grand Gulf Nuclear Station began the inspection period at 100 percent power. On May 20, 2006, power was reduced to approximately 65 percent for power suppression testing in preparation for a midcycle outage to replace a leaking fuel assembly. The reactor was shut down for the outage on May 22, 2006. The reactor plant was restarted on May 29, 2006 and returned to full power on June 1, 2006. The reactor remained at or near full power for the balance of the inspection period, except for planned rod pattern adjustments and control rod testing.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

On June 16, 2006, the inspectors completed a review of the licensee's readiness for impending adverse weather involving severe thunderstorms. The inspectors: (1) evaluated implementation of the adverse weather preparation procedures and compensatory measures for the affected conditions before the onset of adverse weather conditions; (2) reviewed plant procedures, the Updated Safety Analysis Report, and Technical Specifications (TSs) to ensure that operator actions defined in adverse weather procedures maintained the readiness of essential systems; (3) reviewed maintenance records to determine that applicable surveillance requirements were current before the anticipated severe thunderstorms developed; and (4) reviewed plant modifications, procedure revisions, and operator workarounds to determine if recent facility changes challenged plant operation.

Documents reviewed by the inspectors included:

- Procedure 05-1-02-VI-2, “Hurricanes, Tornadoes, and Severe Weather,” Revision 106
- Procedure ENS-EP-302, “Severe Weather Response,” Revision 4
- Condition Report CG-GGN-2006-1780
- Calculation CC-Q1P41-97010, “Standby Service Water Missile Shield Stability and Gap Acceptability,” Revision 0

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdowns

a. Inspection Scope

The inspectors: (1) walked down portions of the three listed risk important systems and reviewed plant procedures and documents to verify that critical portions of the selected systems were correctly aligned; and (2) compared deficiencies identified during the walkdown to the licensee's Updated Final Safety Analysis (UFSAR) and corrective action program to ensure problems were being identified and corrected.

- April 14, 2006, the inspectors walked down the diesel-driven fire pumps while the motor-driven fire pump was out of service for planned maintenance
- May 10, 2006, the inspectors walked down the Division 2 emergency diesel generator while the Division 1 emergency diesel generator was out of service for planned maintenance
- June 8, 2006, the inspectors walked down Train B of the standby liquid control system while Train A was out of service for planned maintenance.

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed three samples.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors walked down the six listed plant areas to assess the material condition of active and passive fire protection features and their operational lineup and readiness. The inspectors: (1) verified that transient combustibles and hot work activities were controlled in accordance with plant procedures; (2) observed the condition of fire detection devices to verify they remained functional; (3) observed fire suppression systems to verify they remained functional and that access to manual actuators was unobstructed; (4) verified that fire extinguishers and hose stations were provided at their designated locations and that they were in a satisfactory condition; (5) verified that

passive fire protection features (electrical raceway barriers, fire doors, fire dampers, steel fire proofing, penetration seals, and oil collection systems) were in a satisfactory material condition; (6) verified that adequate compensatory measures were established for degraded or inoperable fire protection features and that the compensatory measures were commensurate with the significance of the deficiency; and (7) reviewed the UFSAR to determine if the licensee identified and corrected fire protection problems.

- Auxiliary building corridor (Room 1A101)
- Standby service water valve room (Room 2M112)
- Standby service water pump room (Room 2M110)
- Remote shutdown panel room (Room OC208)
- Reactor coolant sample station (Room 1A514)
- Residual heat removal Train B pump room (Room 1A105)

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

No findings of significance were identified.

.2 Annual Inspection

a. Inspection Scope

On June 23, 2006, the inspectors observed a fire brigade drill to evaluate the readiness of licensee personnel to prevent and fight fires, including the following aspects: (1) the number of personnel assigned to the fire brigade, (2) use of protective clothing, (3) use of breathing apparatuses, (4) use of fire procedures and declarations of emergency action levels, (5) command of the fire brigade, (6) implementation of prefire strategies and briefs, (7) access routes to the fire and the timeliness of the fire brigade response, (8) establishment of communications, (9) effectiveness of radio communications, (10) placement and use of fire hoses, (11) entry into the fire area, (12) use of firefighting equipment, (13) searches for fire victims and fire propagation, (14) smoke removal, (15) use of prefire plans, (16) adherence to the drill scenario, (17) performance of the postdrill critique, and (18) restoration from the fire drill. The licensee simulated a fire in the radwaste building heating, ventilation, and air conditioning room. Documents reviewed by the inspectors included:

- Procedure 10-S-03-7, “Fire Protection Training Program” Revision 10
- Grand Gulf Nuclear Station Fire Pre-Plans, Revision 15

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

.1 Annual External Flooding

a. Inspection Scope

The inspectors: (1) reviewed the UFSAR, the flooding analysis, and plant procedures to assess seasonal susceptibilities involving external flooding; (2) reviewed the UFSAR and corrective action program to determine if the licensee identified and corrected flooding problems; (3) inspected underground bunkers/manholes to verify the adequacy of (a) sump pumps, (b) level alarm circuits, (c) cable splices subject to submergence, and (d) drainage for bunkers/manholes; (4) verified that operator actions for coping with flooding can reasonably achieve the desired outcomes; and (5) walked down the below listed area to verify the adequacy of: (a) equipment seals located below the floodline, (b) floor and wall penetration seals, (c) watertight door seals, (d) common drain lines and sumps, (e) sump pumps, level alarms, and control circuits, and (f) temporary or removable flood barriers.

C May 3-4, 2006, diesel generator building, control building, and Culvert 1.

Documents reviewed by the inspectors included:

- CC-Q1Y23-91032, “PMP Evaluation for Phase I Road and Yard Paving,” Revision 1
- CC-Q1Y23-91047, “PMP Site Drainage,” Revision 0
- Drawing C-KA7298, “Vehicle Barriers, Plan and Details,” Revision A
- CR-GGN-2006-1832
- CR-GGN-2006-1780

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

The inspectors observed testing and training of senior reactor operators and reactor operators to verify the adequacy of the training, to assess operator performance, and to assess the evaluator's critique. The training scenarios, GSMS-LOR-HIT14, Revision 0, and GSMS-LOR-HIT15, Revision 0, involved a reactor feed pump trip from full rated power and a loss of instrument air with subsequent scram with a loss of coolant accident, respectively.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed the two listed maintenance activities in order to: (1) verify the appropriate handling of structure, system, and component (SSC) performance or condition problems; (2) verify the appropriate handling of degraded SSC functional performance; (3) evaluate the role of work practices and common cause problems; and (4) evaluate the handling of SSC issues reviewed under the requirements of the maintenance rule, 10 CFR Part 50 Appendix B, and the TS's.

- Standby Gas Treatment (T48)
- Feedwater System (N21)

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

.1 Risk Assessment and Management of Risk

a. Inspection Scope

The inspectors reviewed the five listed activities to verify: (1) performance of risk assessments when required by 10 CFR 50.65 (a)(4) and licensee procedures prior to changes in plant configuration for maintenance activities and plant operations; (2) the accuracy, adequacy, and completeness of the information considered in the risk assessment; (3) that the licensee recognized, and/or entered, as applicable, the appropriate licensee-established risk category according to the risk assessment results and licensee procedures; and (4) the licensee identified and corrected problems related to maintenance risk assessments.

- Work Order (WO) 80852, Radial well Pump K motor replacement
- WO 80941, Reactor protection system fuse relocation
- WO 51025695, Containment cooling fan filter replacement
- WO 86892, Drywell leakage investigation
- WO 88160, Division 2 emergency diesel generator cylinder examination

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed five samples.

b. Findings

No findings of significance were identified.

.2 Emergent Work Control

a. Inspection Scope

The inspectors: (1) verified that the licensee performed actions to minimize the probability of initiating events and maintained the functional capability of mitigating systems and barrier integrity systems; (2) verified that emergent work-related activities such as troubleshooting, work planning/scheduling, establishing plant conditions, aligning equipment, tagging, temporary modifications, and equipment restoration did not place the plant in an unacceptable configuration; and (3) reviewed the UFSAR to determine if the licensee identified and corrected risk assessment and emergent work control problems.

- WO 86641, Troubleshooting of failed combustible gas control system relay

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions (71111.14)

a. Inspection Scope

The inspectors: (1) reviewed operator logs, plant computer data, and/or strip charts for the listed evolutions to evaluate operator performance in coping with nonroutine events and transients; (2) verified that operator actions were in accordance with the response required by plant procedures and training; and (3) verified that the licensee identified and implemented appropriate corrective actions associated with personnel performance problems that occurred during the nonroutine evolutions sampled.

- June 19, 2006, operator response to an inadvertent single control rod scram.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors: (1) reviewed plant status documents, such as operator shift logs, emergent work documentation, deferred modifications, and standing orders, to determine if an operability evaluation was warranted for degraded components; (2) referred to the UFSAR and design basis documents to review the technical adequacy of licensee operability evaluations; (3) evaluated compensatory measures associated with operability evaluations; (4) determined degraded component impact on any TS; (5) used the significance determination process (SDP) to evaluate the risk significance of degraded or inoperable equipment; and (6) verified that the licensee identified and implemented appropriate corrective actions associated with degraded components.

- CR-GGN-2006-1577, Division 2 emergency diesel generator trip
- CR-GGN-2006-1528, Liquid radwaste effluent monitor
- CR-GGN-2006-1677, Degraded voltage in 500 kV switchyard
- CR-GGN-2006-1788, Division 3 emergency diesel generator overspeed switch
- CR-GGN-2006-1754, Breaker racking mechanism bolt missing
- CR-GGN-2006-2007, Standby liquid control level error
- CR-GGN-2006-1955, Division 1 emergency diesel generator trip

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed seven samples.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the six listed postmaintenance test activities of risk significant systems or components. For each item, the inspectors: (1) reviewed the applicable licensing basis and/or design-basis documents to determine the safety functions; (2) evaluated the safety functions that may have been affected by the maintenance activity; and (3) reviewed the test procedure to ensure it adequately tested the safety function that may have been affected. The inspectors either witnessed or reviewed test data to verify that acceptance criteria were met, plant impacts were evaluated, test equipment was calibrated, procedures were followed, jumpers were properly controlled, test data results were complete and accurate, test equipment was removed, the system was properly realigned, and deficiencies during testing were documented. The

inspectors also reviewed the UFSAR to determine if the licensee identified and corrected problems related to postmaintenance testing.

- WO 86336, Division 1 emergency diesel generator shuttle valve replacement
- WO 88418, Division 1 emergency diesel generator high vibration trip
- WO 80205, Standby service water Train A basin level transmitter replacement
- WO 86808, Division 1 emergency diesel generator turbocharger oil sightglass
- WO 87794, Division 1 emergency diesel generator cylinder rebuild
- WO 88659, Reactor core isolation cooling steam supply valve repair

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the following risk significant refueling items or outage activities to verify defense in depth commensurate with the outage risk control plan and compliance with the TSs: (1) the risk control plan; (2) tagging/clearance activities; (3) reactor coolant system (RCS) instrumentation; (4) electrical power; (5) decay heat removal; (6) spent fuel pool cooling; (7) inventory control; (8) reactivity control; (9) containment closure; (10) reduced inventory conditions; (11) refueling activities; (12) heatup and cooldown activities; (13) restart activities; and (14) licensee identification and implementation of appropriate corrective actions associated with refueling and outage activities. The inspectors' containment inspections included observations of the containment sump for damage and debris; and observations of supports, braces, and snubbers for evidence of excessive stress, water hammer, or aging. Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

Introduction: The inspectors identified a Green noncited violation of Technical Specification 5.4.1(a) for the failure to follow the procedure for reactor recirculation pump speed changes.

Description: On February 2, 2006, a failed temperature probe on reactor recirculation Loop A resulted in the actuation of the “Recirculation Pump A Temperature Interlock” control room annunciator. The annunciator response procedure states that actuation of this interlock prevents the start of reactor recirculation Pump A. In accordance with Procedure 02-S-01-25, “Deficient Equipment Identification,” Revision 10, operators

initiated a WO for the failed temperature probe and placed a marker with a single stripe on the annunciator alarm window to identify it as a problem annunciator. The licensee did not write a condition report for the failed probe and, therefore, did not enter the problem into the corrective action program. Since the probe was physically located in the drywell, the WO was scheduled as an outage activity. However, repair of the probe was not added to the forced outage work list and was not included as part of the scope for a planned midcycle outage.

On May 30, operators were increasing plant power following completion of the midcycle outage. With the plant at 30 percent power, operators planned to shift the recirculation pumps to fast speed in accordance with Procedure 04-1-01-B33-1, "Reactor Recirculation System," Revision 125. Prior to shifting the pumps to fast speed, Procedure 04-1-01-B33-1 required operators to verify that all annunciators associated with the recirculation loop pump temperatures were extinguished, thus ensuring that the temperature interlocks were satisfied prior to starting the pump. Operators successfully shifted Recirculation Pump B to fast speed. Prior to shifting Recirculation Pump A, operators noted that the "Recirculation Pump A Temperature Interlock" control room annunciator was lit, but had a single stripe marker on it indicating there was a problem with the annunciator. Despite the fact that the annunciator was lit, operators attempted to shift Recirculation Pump A to fast speed, but the pump did not shift. Operators attempted to shift pump speed two more times before they questioned whether or not the temperature interlock had been satisfied.

With Recirculation Pump B operating in fast speed, and Recirculation Pump A operating in slow speed, a flow mismatch existed between the two loops which exceeded the Technical Specification 3.4.1 Limiting Condition for Operation. Matched recirculation loop flows are required in order to meet the accident analysis assumptions for a loss-of-coolant accident resulting from a recirculation loop line break. Operators entered Condition A which required that they shut down one recirculation loop within 2 hours. One hour and 40 minutes later, operators shifted Recirculation Pump B to slow speed, established matched recirculation loop flows, and exited TS 3.4.1.

After both recirculation pumps were operating in slow speed, maintenance technicians implemented a WO to temporarily bypass the temperature interlock. After verifying that all requirements were satisfied, operators successfully started Recirculation Pump A in fast speed and continued with the plant startup.

Analysis: The failure by operators to follow station procedures for the operation of recirculation pumps was a performance deficiency. This finding is more than minor since the failure to follow procedures regarding reactor manipulation, if left uncorrected, could lead to a more significant safety concern. The inspectors determined this finding affected the Barrier Integrity cornerstone since matched recirculation loop flows is an assumption used in the accident analysis for a loss-of-coolant accident resulting from a loop break. A flow mismatch could result in core response more severe than assumed in the accident analysis. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is of very low safety significance since it only affects the fuel barrier. This finding has crosscutting aspects associated with human performance since operators failed to follow procedures and verify that all annunciators

associated with the recirculation loop pump temperatures were extinguished prior to shifting Recirculation Pump A to fast speed. Operators made incorrect assumptions regarding the meaning of the lit annunciator and the impact that it would have on their ability to shift the pump to fast speed.

Enforcement: Technical Specification 5.4.1(a) requires written procedures to be implemented as recommended by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Appendix A recommends procedures governing operations at power. Procedure 03-1-01-2, "Power Operations," Revision 130, directs operators to transfer reactor recirculation pumps to fast speed per Procedure 04-1-01-B33-1, "Reactor Recirculation System," Revision 125. Step 4.2.2a(4) of Procedure 04-1-01-B33-1 requires, in part, that operators ensure the annunciators associated with the recirculation pump to be shifted are extinguished. Contrary to the above, on May 30, 2006, the reactor operator attempted to shift reactor recirculation Pump A to fast speed while the temperature interlock annunciator was illuminated. Because this violation was of very low safety significance and was entered in the corrective action program as CR-GGN-2006-2329, this violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy: Noncited Violation (NCV) 05000416/2006003-01, Failure to Follow Procedure results in Recirculation Loop Flow Mismatch.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the UFSAR, procedure requirements, and TSs to ensure that the seven listed surveillance activities demonstrated that the SSCs tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the following significant surveillance test attributes were adequate: (1) preconditioning; (2) evaluation of testing impact on the plant; (3) acceptance criteria; (4) test equipment; (5) procedures; (6) jumper/lifted lead controls; (7) test data; (8) testing frequency and method demonstrated TS operability; (9) test equipment removal; (10) restoration of plant systems; (11) fulfillment of ASME Code requirements; (12) updating of performance indicator (PI) data; (13) engineering evaluations, root causes, and bases for returning tested SSCs not meeting the test acceptance criteria were correct; (14) reference setting data; and (15) annunciators and alarms setpoints. The inspectors also verified that the licensee identified and implemented any needed corrective actions associated with the surveillance testing.

- April 7, 2006, Division 3 emergency diesel generator monthly surveillance test per Procedure 06-OP-1P81-M-0002, "HPCS Diesel Generator Functional Test," Revision 118

- April 11, 2006, Pre-release discharge analysis per Procedure 06-CH-SG17-P-0041, "Radwaste Release Pre-Release Analysis," Revision 105

- April 27, 2006, Turbine stop and control valve operability testing per Procedure 06-OP-1N32-V-0001, "Turbine Stop and Control Valve Operability," Revision 110

- April 27, 2006, Division 1 battery charger capability test per Procedure 06-EL-1L51-R-0001, “125 Volt Battery Charger Capability Test,” Revision 100

- May 29, 2006, Combustible gas cooling containment isolation valve functional stroke per Procedure 06-OP-1E61-Q-0007, “Combustible Gas Control System Quarterly Valve Operability,” Revision 101

- June 7, 2006, Residual heat removal Train A inservice test per Procedure 06-OP-1E12-Q-0005, “LPCI/RHR Subsystem A MOV Functional Test,” Revision 105

- June 21, 2006, Division I emergency diesel generator functional test per Procedure 06-OP-1P75-M-0001, “Standby Diesel Generator Functional Test,” Revision 69

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert Notification System Testing (71114.02)

a. Inspection Scope

The inspector discussed with licensee staff the status of offsite siren and tone alert radio systems to determine the adequacy of licensee methods for testing the alert and notification system in accordance with 10 CFR Part 50, Appendix E. The licensee’s alert and notification system testing program was compared with criteria in NUREG-0654, “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants,” Revision 1, Federal Emergency Management Agency (FEMA) Report REP-10, “Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants,” and the licensee’s current FEMA-approved alert and notification system design report.

The inspector completed one sample during this inspection.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization Augmentation Testing (71114.03)

a. Inspection Scope

The inspector discussed with licensee staff the status of primary and backup systems for augmenting the on-shift emergency response to determine the adequacy of licensee methods for staffing emergency response facilities in accordance with the licensee emergency plan and the requirements of 10 CFR Part 50, Appendix E. The inspector also reviewed Procedures 10-S-01-6, “Notification of Offsite Agencies and Plant On-Call Emergency Personnel,” Revision 42; and 10-S-02-2, “Maintaining the VIP 2000,” Revision 8; and the results of six pager and drive-in drills as listed in the attachment.

The inspector completed one sample during this inspection

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspector performed an in-office review of Revision 56 to the Grand Gulf Nuclear Station Emergency Plan, submitted in February 2006. The revision changed emergency classification level descriptions and revised emergency action levels as described in NRC Bulletin 2005-002, "Emergency Preparedness and Response Actions for Security-Based Events."

The revision was compared to the previous revision, to the criteria of NUREG-0654, “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants,” Revision 1, to Nuclear Energy Institute (NEI) 99-01, “Methodology for Development of Emergency Action Levels,” Revision 2, to NRC Bulletin 2005–02, and to the requirements of 10 CFR 50.47(b) and 50.54(q) to determine if the licensee adequately implemented 10 CFR 50.54(q).

This review was not documented in a Safety Evaluation Report and did not constitute approval of licensee changes; therefore, these changes are subject to future inspection. The inspector completed one sample during this inspection.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspector reviewed the following documents related to the licensee's corrective action program to determine the licensee's ability to identify and correct emergency preparedness problems identified through the drill and exercise program in accordance with 10 CFR 50.47(b)(14) and 10 CFR Part 50, Appendix E. Licensee condition reports were evaluated against the requirements of Procedure EN-LI-102, "Corrective Action Process," Revision 4, to determine whether an appropriate range of problems were entered into the corrective action program, whether problems were correctly characterized, and whether resolutions were comprehensive and timely.

- Three assessments as listed in the attachment
- Emergency Preparedness Audits 2004-GG-1 and 2005-GG-1
- Evaluation reports for 10 drills and exercises as listed in the attachment
- Summaries of 250 corrective actions related to the emergency preparedness program initiated between June 2004 and April 2006
- Details of 21 selected corrective action request condition reports

The inspector completed one sample during the inspection.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

Cornerstone: Mitigating Systems

The inspectors sampled licensee submittals for the PI listed below for the period from July 2004 through March 2006. The definitions and guidance of NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 2, were used to verify the licensee's basis for reporting each data element in order to verify the accuracy of PI data reported during the assessment period. The inspectors reviewed licensee event reports, out-of-service logs, operating logs, and the maintenance rule database as part of the assessment.

C Safety System Functional Failures

The inspectors completed one sample in this cornerstone.

Cornerstone: Barrier Integrity

The inspectors sampled licensee submittals for the PI listed below for the period from July 2004 through March 2006. The definitions and guidance of NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 2, were used to verify the licensee's basis for reporting each data element in order to verify the accuracy of PI data reported during the assessment period. The inspectors: (1) reviewed RCS chemistry sample analyses for dose equivalent Iodine-131 and compared the results to the TS limit; (2) observed a chemistry technician obtain and analyze an RCS sample; (3) reviewed operating logs and surveillance results for measurements of RCS identified leakage; and (4) observed a surveillance test that determined RCS identified leakage.

C RCS specific activity

The inspectors completed one sample in this cornerstone.

Cornerstone: Emergency Preparedness

The inspector sampled licensee submittals for the PIs listed below for the period January 1, 2005, through March 31, 2006. The definitions and guidance of NEI 99-02, "Regulatory Assessment Indicator Guideline," Revisions 2 and 3, were used to verify the licensee's basis for reporting each data element in order to verify the accuracy of PI data reported during the assessment period. The licensee's PI data was also reviewed against the requirements of Procedure EN-EP-201, "Emergency Planning Performance Indicators," Revision 3, and Emergency Preparedness Instruction 10-S-04-4, "Performance Indicators," Revision 4.

- Drill and exercise performance
- Emergency response organization participation
- Alert and notification system reliability

The inspector reviewed a 100 percent sample of drill and exercise scenarios, licensed operator simulator training sessions, notification forms, and attendance and critique records associated with training sessions, drills, and exercises conducted during the verification period. The inspector reviewed 16 selected emergency responder qualification, training, and drill participation records. The inspector reviewed a 100 percent sample of siren test and maintenance records and procedures. The inspector also interviewed licensee personnel accountable for collecting and evaluating the PI data.

The inspector completed three samples in this cornerstone.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

The inspectors performed a daily screening of items entered into the licensee's corrective action program. This assessment was accomplished by reviewing WOs and condition reports and attending corrective action review and work control meetings. The inspectors: (1) verified that equipment, human performance, and program issues were being identified by the licensee at an appropriate threshold and that the issues were entered into the corrective action program; (2) verified that corrective actions were commensurate with the significance of the issue; and (3) identified conditions that might warrant additional follow-up through other baseline inspection procedures.

b. Findings

No findings of significance were identified.

.2 Selected Issue Follow-up Inspection

a. Inspection Scope

In addition to the routine review, the inspectors selected the two listed issues for a more in-depth review. The inspectors considered the following during the review of the licensee's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

- CR-GGN-2006-1000, Control rod misposition
- CR-GGN-2006-1178, Reactor feed pump turbine trip

Documents reviewed by the inspectors are listed in the attachment.

b. Findings and Observations

No findings of significance were identified.

On March 22, 2006, the plant was operating at 100 percent power when a reactor feedwater pump trip resulted in a plant power reduction to approximately 50 percent power. Plant technicians inspected the feed pump control panel fuses and measured voltage and current values at various points in the cabinet, including the +5 volt power distribution bus. The technicians measured a power distribution bus voltage of +4.93 volts, which was within the tolerance of the surveillance and the tolerance required by the vendor manual. Grand Gulf personnel contacted the vendor and discovered that

similar events have occurred in which the power distribution bus voltage was within the required tolerance but still caused a control system failure due to low voltage. The licensee subsequently revised their surveillance procedure to require a higher minimum voltage for the power distribution bus.

The inspectors completed a Phase 2 SDP analysis in conjunction with a senior reactor analyst for the reactor feed pump trip event. Key assumptions used in the analysis included:

- The exposure time for low voltage on the power distribution bus used in Table 1 of the Risk-Informed Inspection Notebook for Grand Gulf Nuclear Station (SDP Phase 2 Notebook, Revision 2) was >30 days.

- The loss of a reactor feedwater pump was unlikely to occur in the 24-hour period following a small break loss-of-coolant accident.

- Both reactor feedwater pumps would not trip concurrently.

The inspectors solved the transient event worksheet of the SDP Phase 2 notebook using the above assumptions and determined the event was of very low safety significance.

.3 Semiannual Trend Review

a. Inspection Scope

The inspectors completed a semiannual trend review of repetitive or closely related issues that were documented in condition reports, maintenance WOs, system health reports, and corrective action trend reports to identify trends that might indicate the existence of more safety significant issues. The inspectors' review consisted of the 6-month period from January 1 through June 30, 2006. When warranted, some of the samples expanded beyond those dates to fully assess the issue. The inspectors compared and contrasted their results with the results contained in the licensee's quarterly trend reports for the fourth quarters of 2005 and 2006. Corrective actions associated with a sample of the issues identified in the licensee's trend report were reviewed for adequacy. The review also included issues documented outside the corrective action process, including repetitive and/or rework maintenance lists, departmental problem lists, system health reports, quality assurance audits/surveillances, self-assessment reports, and maintenance rule assessments. Documents reviewed by the inspectors are listed in the attachment.

b. Findings and Observations

No findings of significance were identified.

.4 Emergency Preparedness

a. Inspection Scope

The inspector reviewed emergency response organization performance and facility problems documented in the licensee's corrective action program and work tracking system between June 2004 and April 2006. The inspector selected 21 condition reports to verify effective corrective action.

b. Findings and Observations

No findings of significance were identified.

4OA3 Event Followup

.1 (Closed) Licensee Event Report 05000416/2005003-00, Mode Change Contrary to Technical Specification LCO 3.0.4

On October 7, 2005, the licensee replaced the Division I load shed and sequencer (LSS) power supplies as part of routine preventive maintenance. The LSS power supplies are safety-related components that provide a reference voltage to the Division I Engineered Safety Features (ESF) degraded voltage bistables. On October 25, 2005, the licensee performed a TS surveillance and found the Division I ESF degraded voltage bistable setpoints higher than the TS allowable values. The licensee determined that small variations in the Division I LSS power supply voltages caused the bistable setpoints to increase above the allowable values.

TS Limiting Condition for Operation (LCO) 3.3.8.1 required that the setpoints be brought into the allowable values or the associated emergency diesel generator be declared inoperable. Since the licensee did not recognize the impact of the replacement power supplies on the Division I ESF degraded voltage bistable setpoints, the appropriate TS action statement was not entered and the allowed completion time was exceeded. Additionally, the licensee violated TS LCO 3.0.4 when the station changed modes with an inoperable emergency diesel generator on October 16 and 18, 2005. This licensee-identified violation of TS LCO 3.0.4 affected the Initiating Events Cornerstone and had very low safety significance (Green) per Appendix A of the SDP because it did not contribute to the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would be unavailable. The enforcement aspects of this violation are discussed in Section 4OA7. This licensee event report is closed.

4OA5 Other

.1 Implementation of Temporary Instruction (TI) 2515/165 - Operational Readiness of Offsite Power and Impact on Plant Risk

a. Inspection Scope

The objective of TI 2515/165, "Operational Readiness of Offsite Power and Impact on Plant Risk," was to confirm, through inspections and interviews, the operational readiness of offsite power systems in accordance with NRC requirements. On March 15-22, 2006, the inspectors reviewed licensee procedures and discussed the attributes identified in TI 2515/165 with licensee personnel. In accordance with the requirements of TI 2515/165, the inspectors evaluated the licensee's operating procedures used to assure the functionality/operability of the offsite power system, as well as the risk assessment, emergent work, and/or grid reliability procedures used to assess the operability and readiness of the offsite power system.

The information gathered while completing this TI was forwarded to the Office of Nuclear Reactor Regulation for further review and evaluation.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On April 11, 2006, the senior emergency preparedness inspector conducted a telephonic exit meeting to present inspection results to Mr. M. Guynn, Manager, Emergency Planning, who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On May 12, 2006, the emergency preparedness inspector presented inspection results to Mr. G. Williams, Vice President, Operations, and other members of his staff who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

On July 10, 2006, the resident inspectors presented the inspection results to Mr. G. Williams, Vice President, Operations, and other members of his staff who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee-Identified Violations

The following violation of very low significance (Green) was identified by the licensee and is a violation of NRC requirements which met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

- TS LCO 3.0.4 requires, in part that, when an LCO is not met, entry into a mode shall not be made, except when the associated action to be entered permits continued operation in that mode for an unlimited amount of time. The licensee violated LCO 3.0.4 when the station was brought into Mode 2 on October 16, 2005, and into Mode 1 on October 18, 2005, with the Division I emergency diesel generator inoperable. This event is documented in the licensee's corrective action program as CR-GGN-2005-4665. This finding is of very low safety significance because it did not contribute to the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. (See Section 4OA3 for additional details.)

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

C. Abbott, Supervisor, Quality Assurance
C. Bottemiller, Manager, Plant Licensing
R. Bryan, General Manager, Plant Operations
M. Causey, Senior Lead Technical Specialist
R. Collins, Manager, Operations
L. Eaton, Senior Lead Engineer
C. Ellsaesser, Manager, Planning and Scheduling
M. Guynn, Manager, Emergency Preparedness
E. Harris, Manager, Corrective Action and Audits
M. Krupa, Director, Nuclear Safety Assurance
M. Larson, Senior Licensing Engineer
J. Robertson, Manager, Quality Assurance
M. Rohrer, Manager, System Engineering
R. Sumrall, Emergency Planner
T. Tankersley, Manager, Training
G. Williams, Vice President, Operations
D. Wiles, Director, Engineering
D. Wilson, Supervisor, Design Engineering
R. Wilson, Superintendent, Radiation Protection
P. Worthington, Supervisor, Engineering

NRC personnel

W. Walker, Senior Project Engineer, Reactor Project Branch C
R. Azua, Project Engineer, Reactor Project Branch C

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None.

Opened and Closed

05000416/2006003-01	NCV	Failure to Follow Procedure Results in Recirculation Loop Flow Mismatch (Section 1R20)

Closed

05000416/2005003-00	LER	Mode Change Contrary to Technical Specification LCO 3.0.4 (Sections 4OA3 and 4OA7)

Discussed

None.

LIST OF DOCUMENTS REVIEWED

In addition to the documents called out in the inspection report, the following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

Section 1R04: Equipment Alignments

Procedures:
04-S-01-P64-1, "Fire Protection Water System," Revision 52
04-1-01-C41-1, "Standby Liquid Control System," Revision 116
04-1-01-P75-1, "Standby Diesel Generator System," Revision 69
06-OP-SP64-M-0011, "Fire Protection System Valve Lineup Verification," Revision 108
06-OP-C41-M-0001, "Standby Liquid Control System Operability," Revision 110

Drawings:
M-1070, "Standby Diesel Generator System," Revision 39
M-0035, "Fire Protection System," Revision 27
M-1082, "Standby Liquid Control," Revision 27

Condition Reports:
CR-GGN-2006-0497
CR-GGN-2005-0824
CR-GGN-2006-00584

Section 1R05: Fire Protection

Procedure 10-S-03-4, "Fire Protection: Control of Combustible Material," Revision 13
Procedure 10-S-03-7, "Fire Protection Training Program," Revision 10
Procedure 07-S-14-12, "Fire Extinguisher Maintenance Check," Revision 30
Grand Gulf Nuclear Station Fire Pre-Plans, Revision 15
Calculation MC-QSP64-86058, "Combustible Heat Load Calculation," Revision 44

Section 1R12: Maintenance Rule

Procedure ENS-DC-121, "Maintenance Rule," Revision 2
Maintenance Rule Failure Database for System T48 and System N21

Condition Reports:
CR-GGN-2005-3018
CR-GGN-2005-5009
CR-GGN-2006-0587
CR-GGN-2006-0603

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedure 01-S-18-6, "Risk Assessment of Maintenance Activities," Revision 3
Procedure 18-S-01-1, "Special Test Instructions," Revision 2
Work Order 86892
CR-GGN-2005-2520

Section 1R15: Operability Determinations

Procedures:
EN-OP-104, "Operability Determinations," Revision 1
07-S-23-C41-1, "SLC Storage Tank Level Bubbler Maintenance," Revision 3
06-OP-1P75-M-0001, "Standby Diesel Generator Functional Test," Revision 121
02-S-01-28, "Diesel Generator Start Log," Revision 1

Condition Reports:
CR-GGN-2005-1927
CR-GGN-2005-1845
CR-GGN-2005-2449

Calculation 6.10.16-N, "Suppression Pool Volume," Revision 1
Work Order 71477
Work Order 71482

Section 1R19: Postmaintenance Testing

Procedures:
04-1-01-P75-1, "Standby Diesel Generator," Revision 70
06-OP-1P75-M-0001, "Standby Diesel Generator Functional Test," Revision 127
04-1-03-P75-1, "Diesel Generator Unexcited Run," Revision 5
07-S-53-P41-10, "SSW Basin level Indication," Revision 7
06-OP-1000-D-0001, "Daily Operating Logs," Revision 119
06-EL-1R65-R-0001, "MOV Thermal Overload Functional Test," Revision 107

CR-GGN-2006-1959

Vendor Manual 46000450, "Transamerica Delaval Diesel Generators"

Work Order 87794

Section 1R20: Refueling and Outage Activities

Procedures:
03-1-01-3, “Plant Shutdown,” Revision 114
03-1-01-2, “Power Operations,” Revision 130
03-1-01-1, “Cold Shutdown to Generator Carrying Minimum Load,” Revision 131
02-S-01-25, “Deficient Equipment Identification,” Revision 10
04-1-01-B33-1, “Reactor Recirculation System,” Revision 125

CR-GGN-2006-2282
CR-GGN-2006-1308
CR-GGN-2006-2325
CR-GGN-2006-2329

Section 1R22: Surveillance Testing

Procedure EN-OP-109, “Drywell Leakage,” Revision 0
Procedure 06-CH-SG17-P-0041, “Radwaste Release Pre-Release Analysis,” Revision 105
CR-GGN-2006-1479
CR-GGN-2006-0587
CR-GGN-2006-1797

Section 1EP2

“Alert and Notification System for Grand Gulf Nuclear Station,” October 2003

Section 1EP3

Evaluation Reports for Drills Conducted:
March 29, 2004
February 21, 2005
June 14, 2005
August 17, 2005
December 6, 2005
March 21, 2006

Section 1EP5

Procedures:
EN-TQ-110, “Emergency Preparedness Training Program,” Revision 5
10-S-01-33, “Emergency Operations Facility Operation,” Revision 15
02-S-01-25, “Deficient Equipment Identification,” Revision 10

Audits and Assessments:
LO-GLO-2004-00072, “GGNS Emergency Preparedness Program Assessment”
LO-GLO-2006-0005, “GGNS Emergency Preparedness Program Assessment”
“Manager’s Focused Assessment,” February 2005

Quality Assurance Audit Report AQ-7-2004-GGNS-1, “Emergency Preparedness”
Quality Assurance Audit Report AQ-7-2005-GGNS-1, Revision 1, “Emergency Preparedness”

Condition Reports:
ECH-2004-00389
GGN-2004-299, 2466, 2510, 2736, 3814, 4005, 4174, and 4417
GGN-2005-861, 1066, 1186, 1877, 1962, 2893, 3168, and 5124
GGN-2006-361, 363, 1480, and 1831

Evaluation Reports for Drills and Exercises conducted:
June 23, 2004 (Medical)
November 11, 2004 (Medical)
January 26, 2005
February 23, 2005
March 23, 2005
May 5, 2005
May 24, 2005
July 20, 2005
November 16, 2005
November 29, 2005 (Medical)
January 25, 2006

Other Documents:
Emergency Preparedness Training Review Group, Meeting Agenda and Minutes, First Quarter 2005

Emergency Preparedness Training Review Group, Meeting Agenda and Minutes, Second Quarter 2005

Emergency Preparedness Training Review Group, Meeting Agenda and Minutes, Third Quarter 2005

Emergency Preparedness Training Review Group, Meeting Agenda and Minutes, Fourth Quarter 2005

Emergency Preparedness Training Review Group, Meeting Agenda and Minutes, First Quarter 2006

Section 4OA1

Procedures:
10-S-01-1, “Activation of the Emergency Plan,” Revision 114
10-S-01-6, “Notification of Offsite Agencies and On-Call Emergency Personnel,” Revision 42
10-S-01-12, “Radiological Assessment and Protective Action Recommendations,” Revision 33
LI-107, “NRC Performance Indicator Technique Sheets,” Revision 1
06-CH-1B21-W-0008, “Reactor Coolant Dose Equivalent Iodine,” Revision 104
06-CH-1B21-O-0002, “Reactor Coolant Routine Chemistry,” Revision 106
08-S-04-9, “Obtaining Liquid Samples,” Revision 15

Other Documents:
Memoranda, “2005 NRC Performance Indicator Designated Events,” January 25, 2005
Memoranda, “2006 NRC Performance Indicator Designated Events,” January 24, 2006

Section 4OA2

Procedure 06-OP-1C11-M-0001, “Control Rod Operability,” Revision 105
Procedure 04-1-01-N21-1, “Feedwater System,” Revision 57
Vendor manual 46000385, “Bailey Instruction Book,” Revision 0
Schematic E-1154, “Cabinet 1N21P001A Power Wiring,” Revision E
CR-GGN-2006-1000
CR-GGN-2006-1178
CR-GGN-2004-1477
CR-GGN-2006-1859

LIST OF ACRONYMS

ASME	American Society of Mechanical Engineers
ESF	engineered safety feature
FEMA	Federal Emergency Management Agency
LCO	limiting condition for operation
LSS	load shed and sequencer
NCV	noncited violation
NEI	Nuclear Energy Institute
PI	performance indicator
RCS	reactor coolant system
SDP	significance determination process
SSC	structure, system, and component
TI	temporary instruction
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
WO	work order